

REMARKS

Claims 1-12 remain in the application with claims 1 and 12 having been amended by the present amendment.

The Examiner rejected claim 12 under 35 U.S.C. §112, second paragraph, as being indefinite specifically pointing to the language “a high functionality polyisocyanate prepared as claimed in claim 10”. The Examiner suggested this language rendered the claim indefinite “because claim 10 is not drawn to a process for preparing the polyisocyanate. Claim 10 is merely drawn to the polyisocyanate.” By the present amendment claim 12 has been amended to depend from claim 1 thus this rejection is believed to be overcome and should be withdrawn.

The Examiner rejected claims 1, 2, and 4-13 under 35 U.S.C. §102(b or e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Bauriedel or Bolte et al. The Examiner suggests that the patentees disclose preferred ratios of initial hydroxyl groups to initial isocyanate groups which will yield applicants’ claimed addition product (A). The Examiner points to the abstract and columns 2-5 within Bauriedel and the abstract and columns 2-4 within Bolte et al.

By the present amendment claim 1 has been amended to recite that the final high-functionality polyisocyanate has at least three free isocyanate groups and no free isocyanate reactive groups.

As a first matter it is important to note that Bauriedel only discloses the use of diisocyanate compounds, no polyisocyanates having more than two NCO groups are disclosed. Use of a diisocyanate in the first stage of the present invention requires that the isocyanate

reactive compound have at least three isocyanate reactive groups. This is the only way using a diisocyanate to produce a product (A) as required by the present invention that contains only one isocyanate reactive group and at least two free isocyanate groups. All the examples disclosed in Bauriedel utilize only a diol as the isocyanate reactive component, thus, it is impossible utilizing the examples of Bauriedel to generate in addition product (A) as required by claim 1 of the present invention.

Bauriedel does state in column 3, line 63 through column 4, line 8 that the starting compound could be up to a hexonal. Even given this disclosure it is clear from other sections of Bauriedel that Bauriedel never contemplates the concept of forming an addition product (A) having only a single isocyanate reactive group and at least two free isocyanate groups. The Examiner is initially directed to column 2, lines 17-19 of Bauriedel where it is stated “forming a first stage pre-polymer having a substantial number of free OH moieties attached through the alcohol nucleus”. The Examiner is also directed to column 4, lines 60-64 wherein Bauriedel states “until the more reactive NCO moieties of the diisocyanate have reacted almost completely with **some of the available OH moieties** (emphasis added) without the less reactive NCO moieties having reacted to any significant extent, if at all.” Finally, the Examiner is directed to column 4, line 68 through column 5, line 2 wherein Bauriedel states “Thus, suitable first stage prepolymers **which still contain free OH moieties after the more reactive NCO moieties have reacted off** ... (emphasis added)”. Despite the Examiners reluctance to agree, applicants contend that Bauriedel clearly discloses a process that does not result in an addition product (A) having only a single isocyanate reactive group and at least two free isocyanate groups.

Bauriedel instead discloses reacting the isocyanate reactive compound with a diisocyanate such that the resulting addition product, itself, contains multiple free OH groups or, when using a diol only one free OH group and one free NCO group. In addition, as noted above all of the examples in Bauriedel only deal with a diisocyanate reacted with a diol in the first stage and thus the addition product is not the same as that required by claim 1 of the present invention. There is no discussion or disclosure within Bauriedel which would lead one of ordinary skill in the art to modify Bauriedel to generate a reaction product and process as claimed in claim 1 of the present invention. Thus, the rejection of claim 1 and the claims which depend therefrom under either 35 U.S.C. § 102 or 35 U.S.C. § 103(a) cannot be maintained and must be withdrawn.

The Examiner rejected claims 1, 2, and 4-13 under either 35 U.S.C. § 102 or 35 U.S.C. § 103(a) based on Bolte et al.

As discussed in previous responses much of the language in Bolte et al. is taken directly from Bauriedel. In Bolte et al. as in Bauriedel the first stage of the reaction is between a polyhydric alcohol with a non-symmetrical diisocyanate “in a first reaction step until the more reactive NCO groups of the diisocyanate have reacted almost completely with some of the OH groups available”. See column 3, lines 51-53. The Examiner is furthermore directed to column 4, lines 17-19 wherein Bolte et al. states “**Thus, suitable products which still contain OH groups after the more reactive NCO groups have reacted off**” (emphasis added). The difference between Bolte et al. and Bauriedel is that Bolte et al. suggests that it is critical that the ratio of the NCO groups of the partly slower-reacting diisocyanate to the NCO groups of the faster-reacting diisocyanate be greater than 6:1. Thus, Bolte et al. also does not teach a process

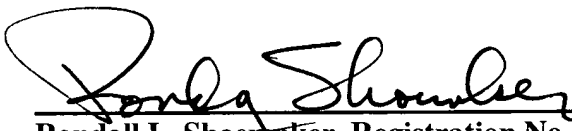
wherein during the first stage an addition product (A) is formed that contains only a single isocyanate reactive group and at least two free isocyanate groups. All the examples in Bolte et al. utilize diisocyanates and diols which are incapable of producing the addition product (A) as required by claim 1 of the present invention. In summary, the rejection of claim 1 and the claims which depend therefrom under either 35 U.S.C. §102 or 35 U.S.C. §103 based on Bolte et al. is improper and must be withdrawn.

Applicants' attorney respectfully submits that the claims as amended are now in condition for allowance and respectfully requests such allowance.

Respectfully submitted,

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Date


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